U.S. Corporate R&D

Volume I:

Top 500 Firms in R&D by Industry Category

Topical Report

Office of Technology Policy,
Technology Administration,
U.S. Department of Commerce

Division of Science Resources Studies
Directorate for Social, Behavioral, and Economic Sciences
National Science Foundation

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FOREWORD

The ability of U.S. industry to compete in global markets depends significantly on a continued, strong investment in scientific knowledge and technology. A confluence of maturing major innovations and accelerating rates of technological progress across many technical fields have contributed considerably to the current surge in U.S. economic growth. Both the creation of technology and the more effective adoption of key technological innovations, such as information and telecommunication systems, are dramatically transforming industrial landscapes. Nevertheless, while all firms may obtain considerable quality and productivity gains through the purchase and deployment of technologies, ultimately, over the long-term, U.S competitiveness rests on the willingness of firms to risk creating and developing new technologies in the first place.

This report, jointly developed by the U.S. Commerce Department's Office of Technology Policy and the National Science Foundation's Division of Science Resources Studies (SRS), provides perspective on the corporate research and development (R&D) spending that underwrites this essential creative process. While R&D spending has long been used as a proxy for measuring the activities of scientists and engineers, the report introduces the *U.S. Corporate R&D* data series to provide new information and context on the R&D activity of the Nation's top 500 R&D spending corporations. Based on the Standard and Poor's *Compustat* database, *U.S. Corporate R&D* is intended to both substantiate existing SRS R&D data series and to provide complementary information for analysts and decision makers. It should be noted, however, that *U.S. Corporate R&D* does not distinguish between different kinds of R&D. According to other 1997 NSF data, more than 93 percent of U.S. industry R&D spending consists of development and applied research. Significantly, while industry spending on development enjoyed robust growth during the 1990s, spending on basic research declined substantially in the mid-1990s, recovering to only 1991 levels in real terms by 1997. Measures of basic research can be found in the SRS special report**,** *National Patterns of R&D Resources: 1998.*

In addition to a straightforward account of 1996 and 1997 R&D activity of companies and the industries they comprise, the *U.S. Corporate R&D* report sets the baseline and lays groundwork for more in-depth research in the future. For example, subsequent reports that might follow could be expanded to include aggregate industry data for more-extensive categories of industrial R&D performers. These expanded research efforts could provide analysts and planners with information that allows for a clearer understanding of the process of technological change in the United States. It is our hope that, through such improved understanding, both public policies and strategic decisions by private companies could become more effective and successful.

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